CLAIMS

1. An isolated nucleic acid molecule comprising a sequence of nucleotides encoding or complementary to a sequence encoding an haemopoietin receptor from an animal or a derivative of said receptor.

2. An isolated nucleic acid molecule comprising a sequence of nucleotides encoding or complementary to a sequence encoding an animal haemopoietin receptor or a derivative thereof, wherein said receptor:

(i) is capable of interaction with IL-13 or its derivatives; and

(ii) is capable of interaction with a complex between IL-4 and IL-4 receptor α-chain.

3. An isolated nucleic acid molecule according to claim 1 or 2 wherein the receptor comprises a derivative of an α-chain of a haemopoietin receptor capable of interaction with IL-13 with low affinity.

4. An isolated nucleic acid molecule according to claim 1 or 2 wherein the receptor is a derivative of an α-chain of a haemopoietin receptor capable of interaction with IL-13 with medium to high affinity.

5. An isolated nucleic acid molecule according to claim 1 or 2 encoding a receptor having an amino acid sequence substantially as set forth in SEQ ID NO:2 or SEQ ID NO:4 or having at least about 50% similarity to all or part thereof.

6. An isolated nucleic acid molecule according to claim 1 or 2 [illegible]

7. An isolated nucleic acid molecule comprising a sequence of nucleotides which encodes or is complementary to a sequence which encodes an IL-13 receptor α-chain or a derivative thereof, said nucleic acid molecule having a nucleotide sequence substantially as set forth in SEQ ID NO:1 or SEQ ID NO:3 or a nucleic acid molecule which encodes a functionally similar IL-13 receptor α-chain or a derivative thereof and which is capable of hybridising to the nucleotide sequence substantially as set forth in SEQ ID NO:1 or SEQ ID NO:3 or a complementary form thereof under low stringency conditions.

8. An isolated nucleic acid molecule comprising a sequence of nucleotides which encodes or is complementary to a sequence which encodes the IL-13 receptor α-chain or a derivative thereof having an amino acid sequence substantially as set forth in SEQ ID NO:2 or SEQ ID NO:4 or comprises a nucleotide sequence coding for an amino acid sequence having at least about 50% similarity to the sequence set forth in SEQ ID NO:2 or SEQ ID NO:4 and is capable of hybridising to the sequence set forth in SEQ ID NO:1 or SEQ ID NO:3 under low stringency conditions.

9. An isolated nucleic acid molecule according to claim 1 or 2 or 7 or 8 which encodes a haemopoietin receptor capable of interaction with IL-13 or its derivatives, which interaction is capable of competitive inhibition by IL-4 or a derivative thereof in cells which express an IL-4 receptor α-chain.

10. A genetic construct comprising a nucleic acid molecule according to claim 1 or 6 or 7 operably linked to a promoter capable of directing expression of said nucleic acid molecule in a host cell.

[illegible] SEQ ID NO:2 or SEQ ID NO:4 or having at least about 50% similarity to all or part thereof, said polypeptide capable of interaction with IL-13 or its derivatives.

12. A recombinant polypeptide according to claim 11 wherein the interaction with IL-13 is competitively inhibited by IL-4 in cells which express an IL-4 receptor α-chain.

13. A recombinant polypeptide according to claim 11 wherein the interaction with IL-13 is with low affinity.

14. A recombinant polypeptide according to claim 10 wherein the interaction with IL-13 is with medium to high affinity.

15. A recombinant polypeptide according claim 11 wherein said polypeptide has a molecular weight of from about 50,000 to about 70,000 daltons as determined by Western blot analysis when expressed in COS cells.

16. A recombinant polypeptide having at least two of the following characteristics:

(i) comprises an amino acid sequence substantially as set forth in SEQ ID NO:2 or SEQ ID NO:4 or having at least about 50% similarity to all or part thereof;

(ii) is encoded by a nucleotide sequence substantially as set forth in SEQ ID NO:1 or SEQ ID NO:3 or having at least about 50% similarity to all or part thereof;

(iii) interacts with IL-13 or its derivatives with at least low affinity; and

(iv) has a molecular weight of from about 50,000 to about 70,000 daltons as determined by Western blot analysis when expressed in COS cells.

SEQ ID NO:4 or having at least about 50% similarity to all or part thereof;

(ii) is encoded by a nucleotide sequence substantially as set forth in SEQ ID NO:1 or SEQ ID NO:3 or having at least about 50% similarity to all or part thereof;

(iii) interacts with IL-13 or its derivatives with at least low affinity;

(iv) has a molecular weight of from about 50,000 to about 70,000 daltons as determined by Western blot analysis when expressed in COS cells;

(v) comprises an amino acid sequence derived from IL-4 receptor α-chain; and

(vi) is capable of interaction with IL-13 which is competitively inhibited by IL-4 in cells which express an IL-4 receptor α-chain.

18. An antibody to the recombinant polypeptide according to claim 16 and 17.

19. An antibody according to claim 16 wherein said antibody is a monoclonal antibody.

20. A hybrid haemopoietin receptor capable of interaction with at least two cytokines wherein at least one of said cytokines is IL-13 or its derivatives and wherein said hybrid receptor comprises an amino acid sequence which includes all or part of the amino acid sequence set forth in SEQ ID NO:2 or SEQ ID NO:4.

21. A hybrid haemopoietin receptor capable of high affinity interaction with at least one cytokine wherein at least one of said cytokines is IL-13 or its derivatives and wherein said hybrid receptor comprises an amino acid sequence which includes all or part of the amino acid sequence set forth in SEQ ID NO:2 or SEQ ID NO:4.

23. A hybrid haemopoietin receptor according to claim 21 capable of interaction with a

24. A pharmaceutical composition comprising a recombinant polypeptide according to claim 16 or 17 and one or more pharmaceutically acceptable carriers and/or diluents.

25. A genetic pharmaceutical composition comprising a nucleic acid molecule according to claim 1 or 2 or 7 or 8 and one or more genetically acceptable carriers and/or diluents.

26. A method of treatment in an animal comprising administering to said animal a treatment effective amount of a recombinant polypeptide according to claim 16 or 17

27. A method of treating asthma, allergy or a condition exacerbated by IgE production in an animal comprising administering to said animal a treatment of an effective amount of a recombinant polypeptide according to claim 16 or 17.

28. A method of producing a recombinant polypeptide having at least two of the following characteristics:

(i) comprises an amino acid sequence substantially as set forth in SEQ ID NO:2 or SEQ ID NO:4 or having at least about 50% similarity thereto;

(ii) is encoded by a nucleotide sequence substantially as set forth in SEQ ID NO:1 or SEQ ID NO:3 or having at least about 50% similarity thereto;

(iii) interacts with IL-13 or its derivatives with at least low affinity; and

(iv) has a molecular weight of from about 50,000 to about 70,000 daltons as determined by Western blot analysis when expressed in COS cells,

said method comprising culturing cells comprising the genetic construct according to claim 10 for a time and under conditions sufficient to express the nucleic acid molecule in said

29 A method of producing a recombinant polypeptide having at least three of the following characteristics:

(i) comprises an amino acid sequence substantially as set forth in SEQ ID NO:2 or SEQ ID NO:4 or having at least about 50% similarity to all or part thereof;

(ii) is encoded by a nucleotide sequence substantially as set forth in SEQ ID NO:1 or SEQ ID NO:3 or having at least about 50% similarity to all or part thereof;

(iii) interacts with IL-13 or its derivatives with at least low affinity;

(iv) has a molecular weight of from about 50,000 to about 70,000 daltons as determined by Western blot analysis when expressed in COS cells;

(v) comprises an amino acid sequence derived from IL-4 receptor α-chain; and

(vi) is capable of interaction with IL-13 which is competitively inhibited by IL-4 in cells which express an IL-4 receptor α-chain.

said method comprising culturing cells comprising the genetic construct according to claim 10 for a time and under conditions sufficient to express the nucleic acid molecule in said genetic construct to produce a recombinant polypeptide and isolating said recombinant polypeptide.

30 Animal cells which express the recombinant polypeptide produced by the method according to claim 28 and 29

31 A chimeric protein comprising a first portion capable of interaction with IL-13 or its derivatives and a second portion derived from a haempoietin receptor, a receptor tyrosine

A chimeric protein according to claim 31 wherein the second portion comprises at least a functional portion of IL-13 binding protein, IL-4 receptor α-chain, IL-2 receptor γ-chain or

33. A method for monitoring the level of IL-4 in a biological sample said method comprising incubating said biological sample with cells which express NR4 and IL-4 receptor α-chain together with an effective amount of IL-13 to competitively inhibit IL-4 binding to its receptor and determining the extent of competitive inhibition.

34. A method for monitoring the level of IL-13 in a biological sample said method comprising incubating said biological sample with cells which express NR4 and IL-4 receptor α-chain together with an effective amount of IL-4 to competitively inhibit IL-13 binding to its receptor and determining the extent of competitive inhibition.

35. A method according to claim 33 or 34 wherein the cytokines are labelled with a reporter molecule.